

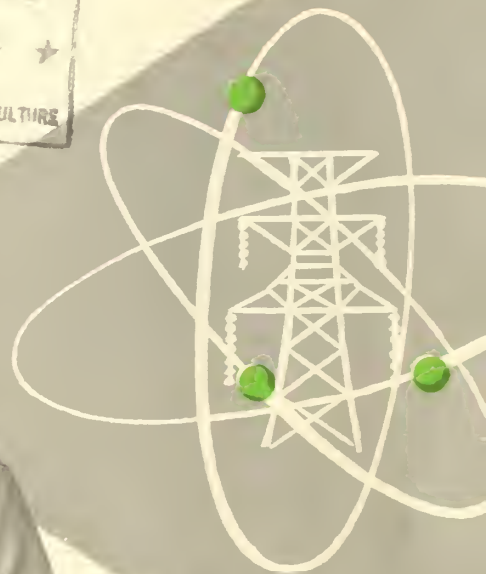
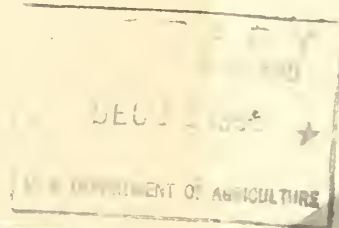
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Exp. 2

A Challenging Career

IN ENGINEERING



for you

MISCELLANEOUS PUBLICATION NO. 736

RURAL ELECTRIFICATION ADMINISTRATION
U. S. DEPARTMENT OF AGRICULTURE



oin the dynamic REA program
in Rural Telephony and Electrification

Broad in scope—Valuable Experience
Pioneering new fields





What

REA

Does

REA, an agency of the U. S. Department of Agriculture, is helping bring electricity and telephone service to rural America. The help provided by REA takes the form of long-term financing and technical assistance in such fields as engineering.

In 21 years of operation, REA has built a record of progress and accomplishment. More than \$3 billion in loans have been made to rural electric systems all over the country and these loans have financed nearly 1½ million miles of plant serving 4¾ million consumers. In the telephone program, which began in 1950, more than \$300 million have been loaned for the construction of more than 1,200 exchanges. REA financing and technical assistance have enabled the borrowers, for the most part locally owned and controlled private companies and cooperatives, to build facilities and bring service into many unserved communities.

A tremendous task looms ahead even though much prog-

ress has been made. The rural telephone and electrification possibilities are just beginning to blossom.

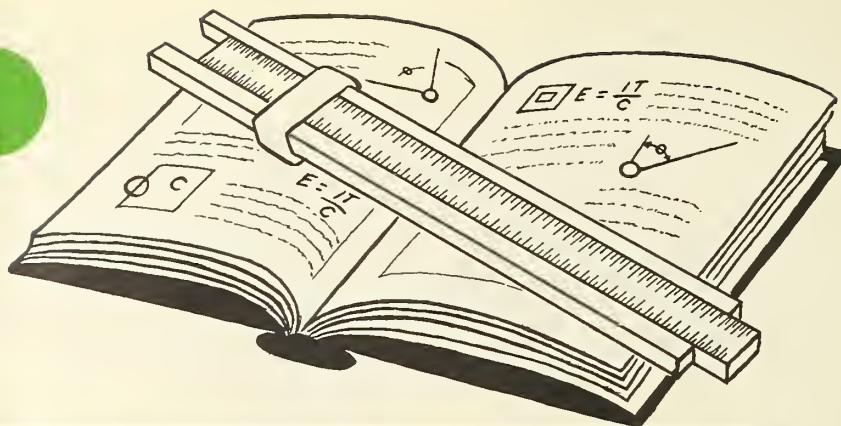
In the telephone field thousands of rural people still are without service; many thousands of others need improved service. This job of extending and improving rural service constitutes a real challenge and opportunity for the future REA telephone engineer.

Nearly all farms now have electric service. But the use of electricity on the farm is expanding rapidly and the rural utilities must provide additional facilities to meet this demand for more power. The financing needed by REA electric systems in the next two decades for heavying up and otherwise handling load growth is estimated to be twice as great as the amount used up to 1956.

In these fields of such great expansion—rural electrification and telephony—opportunity awaits for the man with training, ideas and energy. You can make it your opportunity.

electrical engineers

Begin a Stimulating Career in REA



OPPORTUNITIES IN TELEPHONY OR ELECTRIFICATION

Each year REA selects a number of electrical engineering graduates for a 6-month training course in rural telephony or rural electrification as the initial stage of a career in REA.

You can be considered for one of these opportunities by filling out an application form and sending it to REA as soon as possible, as explained in the back of this booklet.

You are eligible if you will get a B. S. degree in electrical engineering. You may apply for work in either the telephone or electric programs and you will be eligible regardless of your college option.

HERE'S WHAT

OFFERS YOU

The logo for the Rural Electrification Administration (REA), featuring the letters "REA" in a stylized, bold font inside a dark circle.

- ★ A 6-month training course in rural telephony or rural electrification.
- ★ Pay while training.
- ★ Rapid promotion upon successful completion of training courses.
- ★ Experience in a wide variety of telephone and electrical engineering work.
- ★ Opportunity for contacts with key figures throughout the U. S. engineering field.
- ★ Advanced on-the-job training under recognized engineers.
- ★ Liberal benefits of Federal civil service.
- ★ A future with opportunity for broad gauge achievement and comfortable pay.

What REA Engineers Do

Telephone and electric utility systems need sound design, construction and operation to give adequate and dependable service. In effect, this constitutes the security of the Government's loans.

Engineers are key men in REA. Their skill forms the basis on which REA's rural utility financing is being successfully carried out. The engineer's work thus not only plays an important part in the kind of service rural people will get but also in the adequacy of the loan security for the government.

In both REA programs engineers get a wide variety of engineering work.

There are opportunities in staff engineering involving new development, research, and technical problems affecting the fields of telephony and power generation and distribution in general. Operational engineering likewise offers opportunities, where the technical know-how is applied to fit the needs of the individual rural utility.

In the telephone program, for example, the REA engineer's work directly applies to every phase of telephone engineering. This work includes:

Basic system design

Central office switching equipment

Transmission (electronic equipment such as carrier, voice repeaters, radio and microwave)

Traffic

Pole line, wire and cable—design and construction

System economic analyses and cost studies

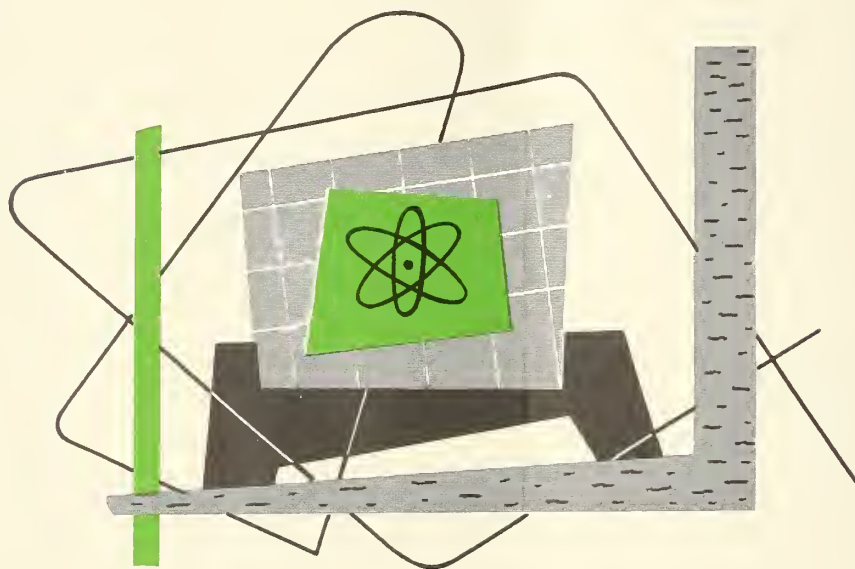
Engineering and construction contracts

System operation and maintenance

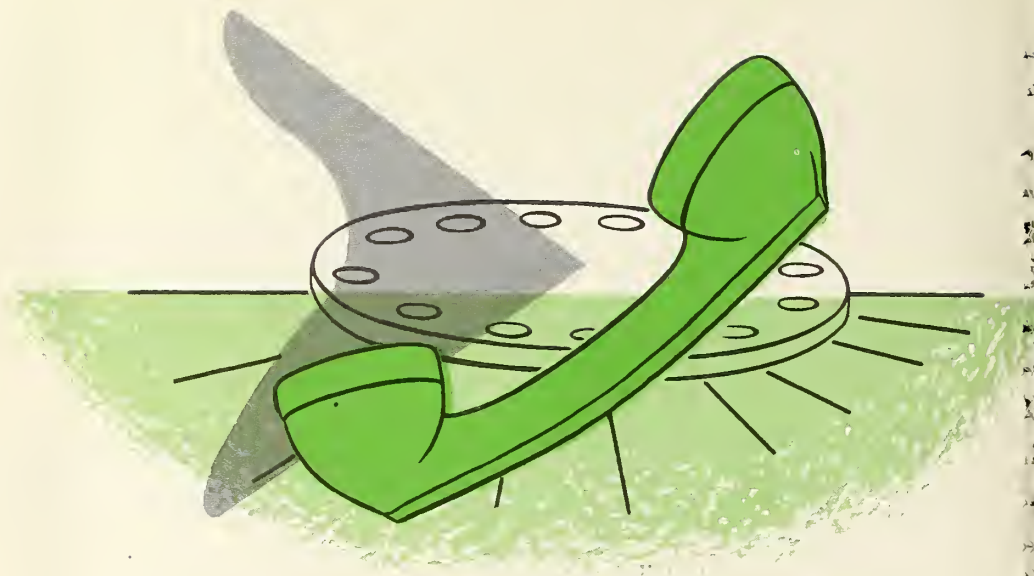
REA telephone engineers keep up with research and development activities in all these fields. They have an opportunity to do so through lectures, films and individual discussions with outstanding telephone industry consultants on REA's staff and conferences with industry leaders.

REA telephone engineers apply their knowledge and experience by assisting in the development of new equipment and designs. They also work with telephone systems and consulting engineers throughout the country in the development of fundamental designs for sound and economical construction.

Staff engineers, in telephony, also provide special technical assistance to solve unusual construction and operating problems. This involves field and office studies of methods to eliminate noise on subscriber lines and truck circuits due to power induction and conditions, the installation and testing of newly developed electronic equipment, installation of plant and equipment involving the application of new techniques, studies of the utilization of equipment and plant, preparation of instructional bulletins on engineering, construction and operation of telephone systems, the use of and improvement of plant operating records and other work.



Opportunities for original thinking are plentiful in both programs, particularly in methods to reduce the cost and increase the reliability of service. There is valuable association with people concerned in day-to-day operation of approximately 1,000 rural electric and 400 telephone systems throughout the country. The net result is a well-rounded engineer, able to hold his own in any part of the electric or telephone industry.



In the electric program REA engineers work with steam, hydro and diesel generation projects from original design, through construction and into operation as well as with preliminary designs of plants using atomic energy and wood waste products as sources of energy. They also work directly with the design, construction and operation of transmission and substation systems varying in voltage from 33 KV through 168 KV, distribution systems of 2.3 KV to 24.9 KV and utilization equipment of all types.

Staff engineers in electrification provide special technical assistance and consulting service to the REA organization on the entire range of its engineering problems.

What You Get at REA

On-the-Job Training



If you are selected as one of REA's electrical engineering graduates, you will begin a 6-month on-the-job training course in rural telephony or rural electrification in Washington, D. C. You may apply for either program.

During the first 5 months, your training will take the form of assignments of short duration rotated among REA's various divisions within the electric or telephone programs. These assignments give you comprehensive orientation in technical and administrative work.

Supplementing your on-the-job assignments will be numerous training conferences conducted by recognized specialists in the engineering field. Special seminars and lecture-discussion periods on broad engineering questions in the field of rural utility work are included.

You have an opportunity, if you desire, to do graduate work at one of the several universities in the Washington area or at the U. S. Department of Agriculture Graduate School.

During the sixth month of your training you will travel in the field visiting REA-financed telephone or electric systems. You will visit equip-

ment manufacturers and other organizations and agencies associated with rural utility activities.

RAPID PROMOTIONS

You will be paid while you learn and your promotions will be rapid if your performance is satisfactory.

Your starting salary will be \$373 a month (GS-5) if you have a bachelor's degree in electrical engineering. As soon as you successfully complete the 6-month training course this is increased to \$445 (GS-7) a month.

If you have six months' professional engineering experience along with your bachelor's degree or hold a master's degree, you will start right out at the \$445 (GS-7) a month level.

In either case, once you have satisfactorily completed a year's service in grade GS-7, you will be promoted to \$510 (GS-9) a month. You will be eligible for further promotion to grade GS-11, \$586 a month, upon satisfactory completion of 1 year's service as a grade GS-9.

PERMANENT ASSIGNMENT

You will get a permanent assignment after you have completed the 6-month course. Initially you will be assigned to work in Washington, D. C., but if you desire it you may apply for a field assignment when you have demonstrated ability to handle field duties. If you want to undertake a field job, your desires as to geographic location will be given every possible consideration.

Field engineers work with consulting engineers, contractors, and utility owners and managers on all activities concerning the design, construction and operation of systems. These activities include basic design, inspection of contract construction, assisting in the making of final acceptance tests of plant and equipment, and assistance in the technical phases of plant operations.

OPPORTUNITIES FOR TRAVEL

Those engineers permanently assigned in Washington, D. C., after the training program, will have opportunities for occasional travel on official business to various parts of the United States. The engineers assigned to the field will travel within their areas frequently, and to various other parts of the country occasionally.

Transportation by common carrier (air or surface) is furnished or, if private automobile is used, the expenses are reimbursed on a mileage basis. Lodgings and meals are reimbursed on a per diem basis.





Opportunity for Advancement



Previous Trainees Do Well



The opportunity for advancement continues throughout your career with REA. Your performance is the key to the promotions you will get because REA follows a strict policy in filling vacancies of giving first consideration to people already on the staff.

Under this promotion-from-within policy, vacancies are advertised among employees and each employee has an opportunity to apply and be considered by those responsible for making selections.

Engineers may advance progressively, after demonstrating ability and meeting Civil Service Commission requirements, from grade GS-5 up through GS-13 which pays \$750 to \$839 a month. Higher grade administrative and specialists positions are also open to men with engineering training. Several of these top grade positions are held by engineers.

REA's training program for engineers is known throughout government and industry for the caliber of men it has brought into the agency.

Young engineers who came into REA as trainees developed many of the outstanding contributions in design and construction that made REA progress in rural areas economically possible.

Trainees generally have moved ahead rapidly. Today former members of the group hold many key jobs in the agency including that of assistant administrator in charge of the electrification program. Others have found that the training and experience in REA has proved valuable in obtaining top-level positions elsewhere.

Civil Service Benefits

Engineer trainees will be covered by liberal plans for:



1 retirement for age and for disability,



2 group life insurance at low cost



3 compensation for injury or death occurring in the line of duty, and



4 ample vacation time and sick leave with pay.

What You Do

Here's what you can do to avail yourself of these engineering opportunities in REA:

act promptly

Indicate your interest to REA as soon as possible.

how to apply

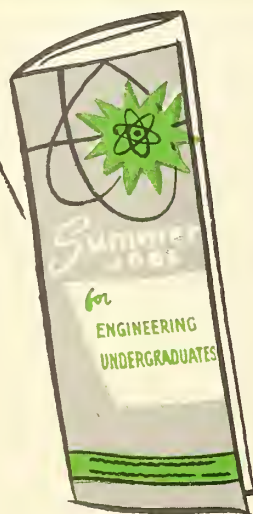
Make your application on Form 57. This is the U. S. Civil Service Commission application form for Federal employment which may be secured at any first class post office or from REA. Be specific in supplying information about your education and experience. Indicate your interest in either REA's Electric or Telephone Program.

where to file application

Send your completed application form to the Chief, Personnel Division, Rural Electrification Administration, U. S. Department of Agriculture, Washington 25, D. C., or give it to the REA recruiting representatives visiting your college or university. Additional information may be obtained from the same sources.

See

SUMMER JOBS
FOR UNDERGRADUATES



MISCELLANEOUS PUBLICATION NO. 737